Docket No.

296905US40PCT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:

Hiroshi SAWADA, et al.

SERIAL NO: 10/594,983

GAU:

2611

FILED:

September 29, 2006

**EXAMINER:** 

FOR:

SIGNAL SEPARATION DEVICE, SIGNAL SEPARATION METHOD, SIGNAL SEPARATION PROGRAM,

AND RECORDING MEDIUM

# **INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97**

COMMISSIONER FOR PATENTS ALEXANDRIA, VIRGINIA 22313

SIR:

Applicant(s) wish to disclose the following information.

#### REFERENCES

The applicant(s) wish to make of record the references listed on the attached form PTO-1449, some of which were
cited in the International Search Report submitted on September 29, 2006. Copies of the listed references are
attached, where required, as are either statements of relevancy or any readily available English translations of
pertinent portions of any non-English language references.

☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

#### RELATED CASES

Attached is a list of applicant's pending application(s), published application(s) or issued patent(s) which may be
related to the present application. In accordance with the waiver of 37 CFR 1.98 dated September 21, 2004, copies
of the cited pending applications are not provided. Cited published and/or issued patents, if any, are listed on the
attached PTO form 1449.

☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

#### **CERTIFICATION**

Each item of information contained in this information disclosure statement was first cited in any communication
from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of
this statement.

☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

### DEPOSIT ACCOUNT

Please charge any additional fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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# STATEMENT OF RELEVANCY

# References AD to AM on Form PTO-1449:

The references are cited in the specification on pages 7, 45, 89, and 107.

SHEET OF 1

1005 8 0 MAI ATTY DOCKET NO. SERIAL NO. U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE Form PTO 1449 (Modified) 296905US40PCT 10/594,983 APPLICANT LIST OF REFERENCES CITED BY APPLICANT Hiroshi SAWADA, et al. **FILING DATE GROUP** 2611 September 29, 2006 **U.S. PATENT DOCUMENTS EXAMINER** DOCUMENT SUB **FILING DATE** DATE NAME CLASS INITIAL NUMBER CLASS IF APPROPRIATE ΔΔ AΒ **FOREIGN PATENT DOCUMENTS** DOCUMENT TRANSLATION DATE COUNTRY NUMBER NO YES AC 2004-170552 06/17/2004 Japan (with English abstract) Х AD 2004-145172 05/20/2004 Japan (with English abstract) х OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.) Ronald E. CROCHIERE, et al., MULTIRATE DIGITAL SIGNAL PROCESSING, 1983, 1 pages vii - xii, 78-88, 296-300 and ΑE Two Cover pages. Özgür YILMAZ, et al., "Blind Separation of Speech Mixtures via Time-Frequency Masking", IEEE TRANSACTIONS ON SIGNAL PROCESSING, Vol. 52, No. 7, July 2004, Pages 1830-1847. Richard O. DUDA, et al., PATTERN CLASSIFICATION, Second Edition, 2001, pages vii - xvii, 526-527, and two cover AG pages. Ryo MUKAI, et al., "FREQUENCY DOMAIN BLIND SOURCE SEPARATION USING SMALL AND LARGE SPCING AΗ SENSOR PAIRS", IEEE, 2004, Pages V-1 to V-4. Aapo HYVÄRINEN, et al., INDEPENDENT COMPONENT ANALYSIS, 2001, pages v - xvii ,6-7 and a cover page ΑI Shoko ARAKI. "UNDERDETERMINED BLIND SEPARATION FOR SPEECH IN REAL ENVIRONMENTS WITH AJ SPARSENESS AND ICA", IEEE, 2004, Pages III-881 to III-884. Simon HAYKIN (editor), UNSUPERVISED ADAPTIVE FILTERING, Volume 1 Blind Source Separation, 2000, pages vi - ix, AK 2-3, and two cover pages. Barry D. VAN VEEN, et al., "Beamforming: A Versatile Approach to Spatial Filtering", IEEE ASSP MAGAZINE, April 1988, AL Pages 4-24. Hiroshi SAWADA, et al., "A Robust and Precise Method for Solving the Permutation Problem of Frequency-Domain Blind Source Separation", IEEE TRANSACTIONS ON SPEECH AND AUDIO PROCESSING, Vol. 12, No. 5, September 2004, Pages 530-538. Hiroshi SAWADA, et al., "Blind source separation of many sounds in the frequency domain", JAPANESE SOCIETY FOR ΑN ARTIFICIAL INTELLIGENCE TECHNICAL REPORT, Pages 17-22 (with English abstract). Hiroshi SAWADA, et al., "Polar Coordinate Based Nonlinear Function for Frequency-Domain Blind Source Separation", AO IEICE TRANS. FUNDAMENTALS, Vol. E86-A, No. 3, March 2003, Pages 590-596. Hiroshi SAWADA, et al., "BLIND EXTRACTION OF A DOMINANT SOURCE SIGNAL FROM MIXTURES OF MANY AP SOURCES", IEEE, 2005, Pages III-61 to III-64. Hiroshi SAWADA, et al., "Blind extraction of dominant target sources using ICA and time-frequency masking", Pages 1-8. AO Shoko ARAKI, et al., "A NOVEL BLIND SOURCE SEPARATION METHOD WITH OBSERVATION VECTOR AR CLUSTERING", NTT COMMUNICATION SCIENCE LABORATORIES, 4 pages. AS AT ΑU ΔV Additional References sheet(s) attached Examiner **Date Considered** \*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in

conformance and not considered. Include copy of this form with next communication to applicant.